

WHAT IS CLAIMED IS:

1 1. A system for delivering medication, comprising:
2 an infusion pump;
3 a control system for controlling medication delivery by the infusion pump; and
4 a bolus estimator for estimating an appropriate amount of medication for delivery by
5 the control system with the infusion pump, wherein estimating the appropriate amount of
6 medication for delivery is based upon one or more settings which each vary according to a
7 setting profile.

1 2. The system of claim 1, wherein the control system controls medication
2 delivery according to one or more medication delivery profiles.

1 3. The system of claim 2, wherein the one or more medication delivery profiles
2 comprises the appropriate amount of medication estimated by the bolus estimator.

1 4. The system of claim 1, wherein the one or more settings are selected from the
2 group including target blood glucose, carbohydrate ratio and insulin sensitivity.

1 5. The system of claim 1, wherein the setting profile for at least one of the one or
2 more setting includes a value which varies according to a schedule.

1 6. The system of claim 1, wherein the control system is programmed to control
2 medication delivery from a source selected from the group including an RF programmer, a
3 communication station and direct input.

1 7. The system of claim 1, wherein the bolus estimator estimates the appropriate
2 amount of medication based upon one or more event markers stored in a memory.

1 8. The system of claim 7, wherein the one or more event markers track events
2 which affect medication need.

1 9. The system of claim 7, wherein the one or more event markers are selected
2 from the group comprising a meal marker, a snack marker, a high blood glucose marker, a
3 low blood glucose marker, an exercise marker, an illness marker and a stress marker.

1 10. The system of claim 1, wherein the setting profile is entered with a graphical
2 programming interface.

1 11. The system of claim 10, wherein the graphical programming interface
2 includes a series of discrete divisions, each having a setting value and the setting profile is
3 programmed by adjusting the setting value of selected ones of the discrete divisions in
4 sequence such that any setting value of each prior discrete division is unchanged and any
5 setting value of each subsequent discrete division is automatically adjusted to the value the
6 selected ones of the discrete divisions.

1 12. A method of delivering medication, comprising the steps of:
2 controlling medication delivery by an infusion pump with a control system;
3 estimating an appropriate amount of medication for delivery by the control system
4 with the infusion pump, wherein estimating the appropriate amount of medication for
5 delivery is based upon one or more settings which each vary according to a setting profile.

1 13. The method of claim 12, wherein the step of controlling includes controlling
2 medication delivery according to one or more medication delivery profiles.

1 14. The method of claim 13, wherein the one or more medication delivery profiles
2 includes the appropriate amount of medication estimated by the bolus estimator.

1 15. The method of claim 12, wherein the one or more settings are selected from
2 the group including target blood glucose, carbohydrate ratio and insulin sensitivity.

1 16. The method of claim 12, wherein the setting profile for at least one of the one
2 or more setting includes a value which varies according to a schedule.

1 17. The method of claim 12, wherein the control system is programmed to control
2 medication delivery from a source selected from the group including an RF programmer, a
3 communication station and direct input.

1 18. The method of claim 12, wherein the bolus estimator estimates the appropriate
2 amount of medication based upon one or more event markers stored in a memory.

1 19. The method of claim 18, wherein the one or more event markers track events
2 which affect medication need.

1 20. The method of claim 18, wherein the one or more event markers are selected
2 from the group comprising a meal marker, a snack marker, a high blood glucose marker, a
3 low blood glucose marker, an exercise marker, an illness marker and a stress marker.

1 21. The method of claim 12, wherein the setting profile is entered with a graphical
2 programming interface.

1 22. The method of claim 10, wherein the graphical programming interface
2 includes a series of discrete divisions, each having a setting value and the setting profile is
3 programmed by adjusting the setting value of selected ones of the discrete divisions in
4 sequence such that any setting value of each prior discrete division is unchanged and any
5 setting value of each subsequent discrete division is automatically adjusted to the value the
6 selected ones of the discrete divisions.

1 23. A system for delivering medication, comprising:
2 an infusion pump; and
3 a control system for controlling medication delivery by the infusion pump;
4 wherein the control system includes a suspend function for temporarily suspending
5 medication delivery by the infusion pump.

1 24. The system of claim 23, wherein controlling medication delivery by the pump
2 includes using two or more wave profiles and wherein the control system includes a suspend
3 function for separately suspending each of the two or more wave profiles.

1 25. The system of claim 24, wherein the control system further includes a resume
2 function for selectively restarting each of the more than one wave profile.

1 26. The system of claim 24, wherein the control system further includes a
2 compensating function for delivering a compensating bolus to account for any suspended
3 wave profile.

1 36. The system of claim 34, wherein the potentially harmful amount of
2 medication is a bolus requested too soon after a previous bolus is delivered.

1 37. The system of claim 34, wherein the potentially harmful amount of
2 medication is too low a total medication dose for the day.

1 38. The system of claim 34, wherein the block function is triggered after a
2 medication measurement integrated over an integration period exceeds a target value.

1 39. The system of claim 38, wherein the block function is alternately triggered
2 because a second medication measurement integrated over a simultaneous and overlapping
3 integration period exceeds the target value.

1 40. The system of claim 38, wherein the integration period is subdivided into a
2 plurality of subperiods and each of the plurality of subperiods is associated with a subtotal
3 representing medication delivered and an oldest subtotal of the subperiods is replaced by a
4 newest subtotal of the subperiods.

1 41. A method of delivering medication, comprising:
2 controlling medication delivery by an infusion pump with a control system; and
3 temporarily suspending medication delivery by the infusion pump with a suspend
4 function of the control system.

1 42. The method of claim 41, wherein the step of controlling medication delivery
2 by the pump includes using two or more wave profiles and wherein the control system
3 includes a suspend function for separately suspending each of the two or more wave profiles.

1 43. The method of claim 42, further including selectively restarting each of the
2 more than one wave profile with a resume function of the control system.

1 44. The method of claim 42, further including delivering a compensating bolus to
2 account for any suspended wave profile with a compensating function of the control system.

1 45. The method of claim 42, wherein the suspend function further includes a full
2 suspend function for directly suspending all medication delivery.

1 46. The method of claim 42, wherein the more than one wave profiles are selected
2 from the group including a square wave bolus profile, a dual wave bolus profile and a basal
3 profile.

1 47. The method of claim 41, wherein the suspend function includes a menu
2 system for selecting a period of time for temporarily suspending medication delivery by the
3 infusion pump.

1 48. The method of claim 47, wherein the menu system includes an array of fixed
2 periods from which to select as the period of time for temporarily suspending medication
3 delivery.

1 49. The method of claim 47, wherein the menu system includes one or more
2 increment periods increment the period of time for temporarily suspending medication
3 delivery.

1 50. The method of claim 47, wherein the menu system includes a specified time
2 of day to select as an end of the period of time for temporarily suspending medication
3 delivery.

1 51. The method of claim 47, wherein after the period of time for temporarily
2 suspending medication delivery by the infusion pump has transpired the pump resumes
3 medication delivery.

1 52. The method of claim 41, wherein the step of temporarily suspending includes
2 suspending delivery of medication with a block function of the control system after a
3 potentially harmful amount of medication is requested by a user and a warning to the user of
4 the potentially harmful amount of medication.

1 53. The method of claim 52, wherein the potentially harmfully amount of
2 medication is an unusually large bolus.

1 54. The method of claim 52, wherein the potentially harmful amount of
2 medication is a bolus requested too soon after a previous bolus is delivered.

1 55. The method of claim 52, wherein the potentially harmful amount of
2 medication is too low a total medication dose for the day.

1 56. The method of claim 52, wherein the block function is triggered after a
2 medication measurement integrated over an integration period exceeds a target value.

1 57. The method of claim 56, wherein the block function is alternately triggered
2 because a second medication measurement integrated over a simultaneous and overlapping
3 integration period exceeds the target value.

1 58. The method of claim 56, wherein the integration period is subdivided into a
2 plurality of subperiods and each of the plurality of subperiods is associated with a subtotal
3 representing medication delivered and an oldest subtotal of the subperiods is replaced by a
4 newest subtotal of the subperiods.

1 59. A system for delivering medication, comprising:
2 an infusion pump including an alarm to indicate status of the infusion pump; and
3 a control system for controlling medication delivery by the infusion pump;
4 wherein the control system includes an alarm profile function for programming a
5 variable alarm volume of the alarm.

1 60. The system of claim 59, wherein the alarm profile function varies the variable
2 alarm volume according to a schedule.

1 61. The system of claim 59, wherein the variable alarm volume is set by the user.

1 62. A method of delivering medication, comprising the steps of:
2 controlling medication delivery by an infusion pump with a control system wherein
3 the infusion pump includes an alarm to indicate status of the infusion pump; and

4 activating the alarm according to an alarm profile function when a potentially harmful
5 condition occurs in controlling medication delivery, wherein the alarm profile function
6 includes programming a variable alarm volume of the alarm.

1 63. The method of claim 62, wherein the alarm profile function varies the variable
2 alarm volume according to a schedule.

1 64. The method of claim 62, wherein the variable alarm volume is set by the user.

1 65. A system for delivering medication, comprising:
2 an infusion pump; and
3 a control system for controlling medication delivery by the infusion pump including a
4 dual wave bolus delivery function;
5 wherein the control system comprises a simplified menu for controlling the dual wave
6 bolus delivery function.

1 66. The system of claim 65, wherein the control system further includes a
2 conventional menu for controlling the dual wave bolus delivery function and the simplified
3 menu and the conventional menu are alternately selected.

1 67. The system of claim 65, wherein the simplified menu includes a single entry
2 of a total medication volume, the single entry being divided by a preset ratio into a first wave
3 bolus and a second wave bolus and delivered with a preset delay time between the first wave
4 bolus and the second wave bolus.

1 68. The system of claim 67, wherein the preset ratio and preset delay time are
2 default values set in a pump setup menu.

1 69. The system of claim 68, wherein the control system further includes one or
2 more additional delivery functions and a default delivery mode is selected in the pump setup
3 menu from the dual wave bolus delivery function and the one or more additional delivery
4 functions.

1 70. The system of claim 69, wherein the additional delivery functions include a
2 square wave bolus delivery function and basal delivery function.

71. A method of delivering medication, comprising the steps of:
controlling medication delivery by an infusion pump with a control system including
a dual wave bolus delivery function; and
providing a simplified menu for controlling the dual wave bolus delivery function.

72. The method of claim 71, wherein the control system further includes a
conventional menu for controlling the dual wave bolus delivery function and further includes
the step of alternately selecting between the simplified menu and the conventional menu.

73. The method of claim 71, wherein the simplified menu includes a single entry
of a total medication volume, the single entry being divided by a preset ratio into a first wave
bolus and a second wave bolus and delivered with a preset delay time between the first wave
bolus and the second wave bolus.

74. The method of claim 73, wherein the preset ratio and preset delay time are
default values set in a pump setup menu.

75. The method of claim 74, wherein the control system further includes one or
more additional delivery functions and a default delivery mode is selected in the pump setup
menu from the dual wave bolus delivery function and the one or more additional delivery
functions.

76. The method of claim 75, wherein the additional delivery functions include a
square wave bolus delivery function and basal delivery function.

77. An system for locating a lost medical device, comprising:
a first device of an infusion device and RF remote pair including a transmitter; and
a second device of the infusion device and RF remote pair including a receiver and a
speaker;
wherein the transmitter induces the receiver to direct an audible signal from the
speaker to allow a user to locate the second device.

78. The system of claim 77, wherein the first device is the RF remote.

1 79. The system of claim 77, wherein the first device is the infusion device.

1 80. An method of locating a lost medical device, comprising:
2 transmitting a signal from a transmitter of a first device of an infusion device and RF
3 remote pair;
4 receiving the signal at a receiver of a second device of the infusion device and RF
5 remote pair; and
6 directing an audible signal from the speaker to allow a user to locate the second
7 device.

1 81. The method of claim 80, wherein the first device is the RF remote.

1 82. The method of claim 80, wherein the first device is the infusion device.